

NEON Annual Meeting
NEON, Inc. Headquarters
1685 38th St., Boulder, CO 80301
Oct 22, 2014

"Scaling ecological processes: theoretical, empirical, modeling, and remote sensing perspectives"

Workshop Co-Chairs:

Michael Dietze (Boston University), David Moore (University of Arizona)

Objective:

Issues of scale are central to many ecological questions, and will be a critical component of NEON-enabled research. However, addressing questions of scale and scaling remain a challenge. Furthermore, different ecological sub-communities use different approaches to scaling, have different theories and concepts about the role of scale, and observe ecological variability at different scales. This workshop aims to (i) foster cross-fertilization across sub-disciplines, (ii) flush out key theoretical questions, and (iii) identify useful analytical tools (statistical & process-based) for addressing questions of scale using NEON data.

Meeting Format: "Lightning slides"

This workshop aims to gather a broad range of ideas from the participants in a short amount of time, and thus will use a "lightning slide" format. Specifically, all workshop participants are invited and encouraged to submit individual, stand-alone slides, each summarizing a single important result, idea, question, or approach. Slides will be organized around the following five themes:

1. Top-down vs. bottom up approaches to scale
2. When does spatial complexity matter?
3. Scaling in ecological theory
4. Identifying the important scales of ecological variability
5. Representation of scale in process-based models

Each theme will be introduced by a 5-min lightning talk, which is followed by the lightning slide presentations by meeting participants, and a brief period for discussion. Time will also be budgeted for slides that fall outside these themes.

The aim is for these presentations and discussions will serve as the backbone of a concepts/synthesis paper, in addition to providing direct feedback to NEON.

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Meeting Schedule:

- 07:30 Breakfast available – (East Break Room, NEON Headquarters)
- 08:30 Introductions (Classroom)
- 08:45 **NEON #1: Highlights of 2012 NEON Scaling Workshop**
- 08:55 **Theme 1: Top-down vs. bottom up approaches to scale**
(John Weishampel, University of Central Florida)
- 09:25 Discussion
- 09:40 *Break*
- 09:50 **NEON #2: High Park Fire** (Michael Lefsky, Colorado State University)
- 10:00 **Theme 2: When does spatial complexity matter?**
(Catherine Graham, Stony Brook)
- 10:30 Discussion
- 10:45 Break
- 10:55 **Theme 3: Scaling in ecological theory**
(Jeremy Lichstein, U. Florida)
- 11:25 Non-Theme slides
- 11:55 Discussion
- 12:10 *Lunch*
- 01:30 **NEON #3: Heterogeneity of surface-atmosphere exchange**
(Stefan Metzger, NEON Inc.)
- 01:40 **Theme 4: Identifying the important scales of ecological variability**
(Stefanie Hampton, Washington State)
- 02:10 Discussion
- 02:25 *Break*
- 02:40 **NEON #4: Continental Scaling via DART-CLM** (Andy Fox, NEON, Inc.)
- 02:50 **Theme 5: Representation of scale in process-based models**
(Mike Dietze, Boston University)
- 03:20 **Discussion and conclusion: Pivotal challenges and ways forward**
- 04:00 Adjourn